

SWBAT: explain how an electroscope works using induction

Jan 4-7:20 AM

# Welcome!!!

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SECA Physics  
Wednesday 4 February 2015

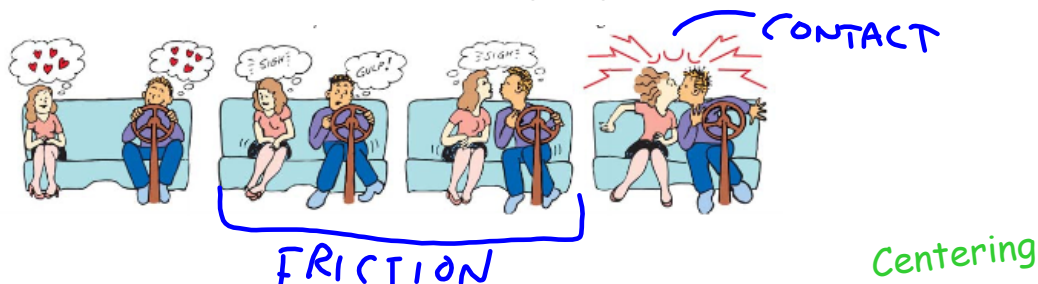
\* Pick up:

- slip of paper (for later)
- white board, marker, eraser

School starts at noon  
tomorrow

Opening question:

What kind of electron transfer is going on here?



Sep 7-7:04 AM

"Life is like a box of chocolates"

"There are plenty of fish in the sea."

### The like / opposite "smell" analogy

Guys: don't like how other guys smell and try to move away  
DO like how women smell and try to move closer

Women: don't like how other women smell and try to move away  
DO like how guys smell and would move closer if they could but are stuck in their chairs

People are on little boats (?) surrounded by acid (?)

Grounding: a large object can give or take electrons to make things neutral

Electroscope animation

<http://www.regentsprep.org/Regents/physics/phys03/aeleclab/nerscope.htm>

Induction animation


<http://www.physicsclassroom.com/mmedia/estatics/isop.cfm>

Charge Polarization animation

[http://photonicswiki.org/index.php?title=Polarization\\_and\\_Polarizability](http://photonicswiki.org/index.php?title=Polarization_and_Polarizability)

Feb 3-7:07 AM

What is happening with the pie tin?

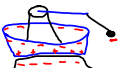


If the pith ball is charged by touching the top edge of the plate, what kind of charge will the ball have?

A) positive B) negative C) neutral

Once that happens, how will the pith ball feel about the edge of the pie tin?

A) attracted B) repelled C) neither / nothing



A person is very large and overall their charge is pretty much

A) positive B) negative C) neutral

People are so large that they can give or take away electrons as needed and still stay pretty much neutral. This is called

A) conserving B) contact C) grounding

How do the negative charges on the pith ball feel about the finger (compared to the pie tin)?

A) attracted B) repelled C) neither / nothing


Once it touches the finger, the pith ball's charge will be

A) positive B) negative C) neutral

What does induction mean?

A) rubbing B) touching/spark C) rearranging

What will happen to the electrons on the pith ball as it swings back toward the pie tin?



A) e's move away B) e's move towards C) e's don't move

When that happens, how will the pith ball feel about the edge of the pie tin?

A) attracted B) repelled C) neither / nothing

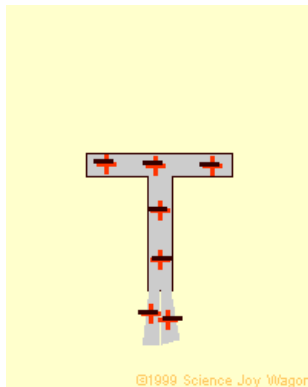
Negative, neutral, negative, neutral, ... The pith ball will keep swinging back and forth from pie tin to finger until...

A) forever B) top of the pie tin is like the finger C) only once

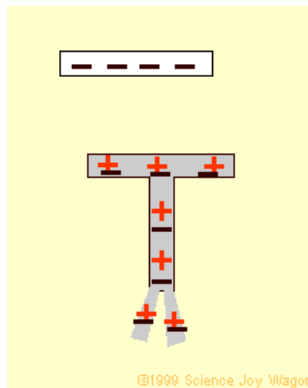
Feb 10-7:30 AM

What would you guess "electro-scope" means?

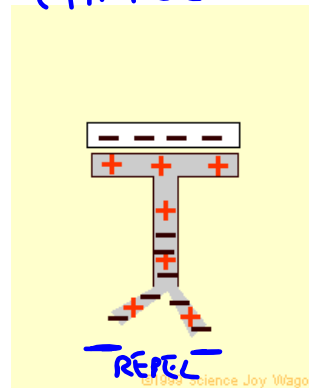
SEE  
ELECTRIC CHARGE



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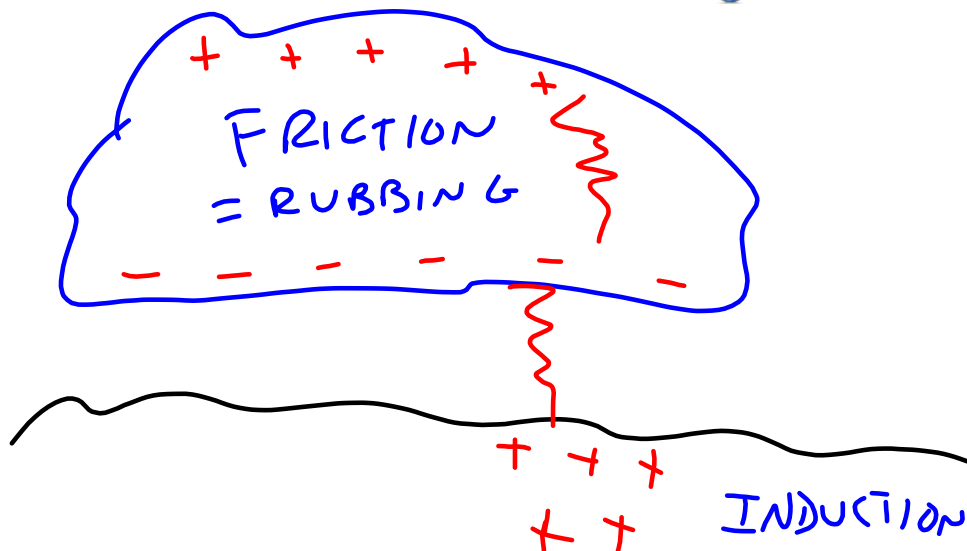
- \* Watch the animation: start, middle, end
- \* Describe what is happening: start to middle, middle to end
- \* Tell your description to someone nearby and listen to theirs
- \* Write a description explaining how an electroscope works

Feb 10-7:51 AM

What about lightning?

<https://www.youtube.com/watch?v=G7GbOFIFODE>

<https://www.youtube.com/watch?v=BPDHCBqtPuo>



Feb 9-7:44 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

CP Hmwk: Explain why an electroscope will act the same when a positive or negative charge is brought near.

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. When the pith ball first touches the negative edge of the pie tin, it travels away with what kind of charge?

- a. neutral
- b. negative
- c. positive

2. An electroscope shows if an object has

- a. magnetism
- b. gravity
- c. electric charge

3. How do clouds get electrically charged?

- a. friction
- b. contact
- c. induction

Jan 3-7:48 AM